

## **CLAIMS**

A copy of all pending claims and a status of the claims is provided below.

1. (original) A router suitable for use in transmitting a packet of data through a communication network wherein the best route through the network is determined at each node, said router comprising:
  - logic for identifying and extracting higher-layer information carried by at least one of the layers above the lowest three layers of a communication protocol of a received Packet;
  - a configuration table for associating the higher-layer information with lower-layer information carried by at least one of the lowest three layers of the communication protocol; and
  - a routing table for determining routing of the packet, responsive to the lower-layer information.
2. (original) The router of claim 1, wherein the higher-layer information comprises a protocol identifier and a port number.
3. (original) The router of claim 1, wherein the lower-layer information comprises a type of service identifier.
4. (original) The router of claim 3, wherein the higher-layer information comprises a protocol identifier and a port number.
5. (original) The router of claim 1, wherein the lower-layer information is carried by Internet Protocol (IP).

6. (original) The router of claim 1, wherein the higher-layer information is carried by Transmission Control Protocol (TCP).
7. (original) The router of claim 1, wherein the logic comprises a protocol processing unit.
8. (original) The router of claim 7, wherein the logic further comprises a forwarding processing unit.
9. (original) A method for determining the route of a packet through a communication network, said method comprising the acts of:
  - a) extracting higher-layer information carried by at least one of the layers above the lowest three layers of a communication protocol of a packet;
  - b) associating the higher-layer information with lower-layer information carried by at least one of the lowest three layers of the communication protocol,
  - c) using the lower-layer information to select a route for the packet through the network by accessing a routing table containing a plurality of routes.
10. (original) A method for determining the route of a packet through a communication network, said method comprising the acts of:
  - a) receiving a packet;
  - b) identifying and extracting higher-layer information carried by at least one of the layers above the lowest three layers of a communication protocol of the received packet;
  - c) associating the higher-layer information with lower-layer information carried by at least one of the lowest three layers of the communication protocol by accessing a configuration table; and
  - d) determining routing of the packet by accessing a routing table responsive to the lower-layer information.

11. (original) The method of claim 10, wherein the higher-layer information comprises a protocol identifier and a port number.
12. (original) The method of claim 10, wherein the lower-layer information comprises a type of service identifier.
13. (original) The method of claim 12, wherein the higher-layer information comprises a protocol identifier and a port number.
14. (original) The method of claim 10, wherein the lower-layer information is carried by Internet Protocol (IP).
15. (original) The method of claim 10, wherein the higher-layer information is carried by Transmission Control Protocol (TCP).